

PHYSICAL THERAPY EVIDENCE BASED PRACTICE FOR THE TREATMENT OF HEADACHES



1 EVALUATION

- a. Range of motion of head and neck
- b. Cervical joint mobility
- c. Muscle tightness
- d. Tenderness to palpation/presence of trigger points
- e. Strength and endurance of the deep neck flexor muscle

- f. Strength and endurance of the axioscapular muscles
- g. Posture



2 MANUAL THERAPY

- a. Joint Mobilization
- b. Suboccipital Release
 - i. Manual traction performed by the therapist
- c. Soft Tissue Massage
- d. Stretching
- e. Supporting Research
 - i. In a randomized controlled trial (RCT) by Espi-Lopez et al., massage was suggested to be an effective physical therapy treatment for relief of tension-type headache (TTH).⁶ However, the addition of manipulation with massage techniques was more effective for increasing range of motion (ROM) of the cervical spine and reducing headache (HA) symptoms.⁶
 - ii. In a different RCT by Espi-Lopez et al., manual therapy treatment was performed on the suboccipital region for patients with TTH for 4 weeks and was suggested to improve a patient's overall quality of life.⁷ The combination treatment group receiving



- both suboccipital inhibition pressure and suboccipital spinal manipulations showed the greatest improvement on the SF-12 questionnaire to represent improved quality of life.⁷
- iii. In an RCT by Dunning et al., the effectiveness of cervical and thoracic manipulations were compared to mobilization and exercise in patients with cervicogenic headache (CH).⁸ After 6-8 treatment sessions, the manipulation group showed greater reductions in HA intensity and disability than the mobilization and exercise groups, and the effects were maintained at a 3-month follow-up.⁸
- iv. In a review by Ricicki et al., both cervical manipulation and mobilization, along with exercise, were suggested to be the most effective conservative interventions for the treatment of cervicogenic headache (CGH) intensity, frequency, and pain.⁹
- v. 6 RCTS included in a review by Posadzki & Ernst suggested the effectiveness of spinal manipulation for the treatment of cervicogenic headaches compared to conventional physical therapy, light massage, drug therapy or no intervention.¹⁰ However, the overall evidence was inconclusive.¹⁰

3 EXERCISE

- a. Cardiovascular Exercise
- b. Targeted Strengthening of Weak Muscles
- c. Supporting Research
 - i. A study by Narin et al. concluded that 8 weeks of therapy, specifically aerobic exercise reduced migraine pain, frequency, and duration.¹¹ Increased levels of nitric oxide were found in those who did aerobic exercise, which is thought to help migraines.¹¹
 - ii. In a review by Ricicki et al., there were 3 treatment groups including a cervical

- ii. manipulation and mobilization group, cervical manipulation and mobilization plus exercise group, and a control group.⁹ The combination of cervical manipulation and mobilization, along with exercise, was suggested to be the most effective conservative approach for the treatment of cervicogenic headache (CGH) intensity, frequency, and pain.⁹



4 ERGONOMICS

- a. Posture Education
- b. Body Mechanics Education
- c. Work Ergonomics Education
- d. Supporting Research
 - i. Watson & Trott compared a group with headaches and a group without headaches.¹² It found that those with headaches had worse neck posture (forward head) and weaker cervical muscles. The clinical implication is that PT is able to address posture and weakness to help prevent further headaches.¹²
 - ii. A study conducted by Hammill et al. found that with education for posture at home and workplace, isotonic home exercise, massage,



- and stretching to the cervical spine muscles, there were less headaches and their Sickness Impact Profile score improved significantly.¹³ These improvements were maintained 12 months after the treatment.¹³
- ii. Rota et al. concluded that a relaxation exercise program significantly decreased pericranial/cervical muscle tenderness and head, neck and shoulder pain in a population of workers.¹⁴ This program involved relaxation and postural exercises, along with visual feedback to monitor excessive contractions occurring at the head and neck muscles.¹⁴

5 PAIN RELIEVING MODALITIES

- a. Pain Relieving Modalities
 - i. Via traction device in order to improve cervical joint mobility, which contributes to the development of cervicogenic headaches
- b. Cryotherapy
- c. Supporting Research
 - i. Robbins found that “26.5% found [cryotherapy] moderately effective, and 9% judged it completely effective.”